

## Section 4

# Threatened and Endangered Flora and Fauna and Other Wildlife

An evaluation was performed to determine which state and federally listed threatened and endangered flora and fauna, or species of special concern, occur within the project area where the improvements upstream of Lake Munson will occur. The presence of non listed wildlife were also recorded.

The Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (FGFWFC 1996) and the Florida Natural Areas Inventory (FNAI) lists of species for Leon County, Florida (FNAI 1997) were reviewed to develop a comprehensive list of threatened and endangered species or species of special concern that may occur within the project area. Other related documents that were reviewed to determine which of these species may occur within the project area include: Rare and Endangered Biota of Florida (Volume I Mammals [Humphrey 1992], Volume II Fishes [Gilbert 1992], Volume III Amphibians and Reptiles [Moler 1992], Volume IV Invertebrates [Deyrup and Franz 1994], and Volume V Birds [Rodgers et al. 1996]). In addition, the FNAI, FGFWFC, and the USFWS were contacted to determine the presence of threatened and endangered species or species of special concern in the project area.

A field survey was conducted in wetlands and uplands within the project area to determine the presence of threatened and endangered species or species of special concern. Through evaluation of the land use and vegetation types and the habitat requirements for threatened and endangered species or species of special concern, specific vegetation communities were identified where these species could occur. The occurrence of these species is related primarily to the presence and availability of particular habitat types (Mohler 1992; Gilbert 1992; and Humphrey 1992). Field verification of land use and vegetation classes were provided according to the Florida Land Use, Cover and Forms Classification System [FLUCFCS] (FDOT 1985). Photointerpretation of rectified color infrared aerial photographs (1" = 400') aided vegetation community identification.

Pedestrian surveys to determine the occurrence of threatened and endangered plant species were performed by Mr. Angus Gholson, and Mr. Peter Wallace of Ecosystem Research Corporation. Pedestrian surveys to determine the occurrence of faunal threatened and endangered species or species of special concern were performed by Mr. Jim Lee of CDM utilizing the methodology outlined by the Florida Game & Fresh Water Fish Commission (FGFWFC) in the manual entitled Wildlife Methodology Guidelines for Section 18.D of the Application for Development Approval (FGFWFC 1988). These methodologies provide the basis to determine the occurrence within the project area of faunal threatened and endangered species or species of special concern.

The pedestrian surveys were performed to look for amphibians, reptiles, birds and mammals and gopher tortoise burrows. These activities were performed during site visits occurring 17 days over a 5 month period (May to September 1997). The pedestrian surveys were made in the morning and early evening hours to visually observe, hear, and record fauna and flora in and along all wetlands

and uplands. Vehicular observations were also conducted along roads and trails during the day throughout the study period. The transects meander through the project area and were changed for each survey to maximize site coverage. Field data logs from the pedestrian surveys are provided in **Appendix B**. The locations of upland pedestrian transects in the project area are indicated on **Figure 4-1**.

Areas not considered optimum gopher tortoise habitat were inspected for gopher tortoise activity during the upland pedestrian surveys. In areas that have appropriate gopher tortoise habitat, transects were provided for greater than 75% of the area (25% is required). At least one transect (250 m x 10m) is recommended per each seven acres of appropriate habitat. Six transects were established at four sites in appropriate gopher tortoise habitats. One site is in the northwest portion of the project area and three sites are in the south portion of the project area (Figure 4-1). The vegetation at these sites is a mixture of long-leaf pine (*Pinus palustris*) and turkey oak (*Quercus laevis*) with wire grass (*Aristida stricta*) and slash pine (*Pinus elliottii*). The largest concentration of burrows and tortoises in the project area are along the haul road within the power line easement. All transects were placed within the appropriate habitat and visited on August 14 and 15, 1997. Every attempt was made to locate burrows and map them. All burrows, within 15 feet of the center line of the transect, were classified as active, inactive, or abandoned.

Gopher tortoise population estimates are based on the number of burrows found in specified areas of appropriate habitat. The total number of active and inactive burrows is multiplied by the conversion factor for each habitat type. The conversion factor is presented by Auffenburg and Franz (1982). The number of burrows multiplied by the conversion factor provides the estimate of the gopher tortoise population. This estimate is the basis for determining habitat preservation and/or mitigation and relocation requirements.

The plant species listed as threatened and endangered or commercially exploited that may occur within Leon County are presented in **Table 4-1**. The only plant species listed as threatened and endangered that was observed in the project area is the golden bent aster (*Pityopsis flexuosa*). This plant was observed throughout the site in xeric turkey oak clearings. There are adequate populations of this species throughout the project area and any temporary loss that might occur will not impact the population in the long-term (Ruhl 1997 pers. Comm.).

The fish, amphibians, reptiles, birds, and mammals listed as threatened and endangered or species of special concern that may occur within Leon County are provided in **Table 4-2**. One fish, one amphibian, six reptiles, 13 birds, and four mammals were considered as listed candidates that could occur within the project area. Some of the listed species may use more than one community type. Also, some of these species may migrate through the area seasonally to forage for food and to breed.

The FNAI element occurrence records (**Appendix C**) indicate six listed faunal species and one listed floral species were observed within one mile of the project area as follows; Florida pine snake (*Pituophis melanoleucus mugitus*), striped newt (*Notophtalmus perstriatus*), gopher frog (*Rana capito*), Eastern indigo snake (*Drymarchon corais couperi*), gopher tortoise (*Polyphemus gopherus*),

gray bat (*Myotis grisescens*), and the golden bent aster (*Pityopsis flexuosa*). Only the gopher tortoise and the golden bent aster were observed in the project area during the six month evaluation. The response from the FGFWFC indicating there are no listed species in their database for the project area is presented in Appendix C. The response from the USFWS indicating that they have no site-specific information for the project area is presented in Appendix C.

All amphibians and reptiles, birds and mammals either expected or observed within the project area are provided in **Tables 4-3, 4-4, and 4-5**, respectively. Listed threatened and endangered species or species of special concern observed during pedestrian surveys are indicated on these tables. All threatened and endangered species and species of special concern observed within the project area are described in **Appendix D**. Figure 4-1 indicates the location of the threatened and endangered animal species or animal species of special concern observed in the project area. Figure 4-1 also indicates the location of relocated gopher tortoises as indicated by City of Tallahassee staff.

On July 7, 1997 an American alligator (*Alligator mississippiensis*) [species of special concern FGFWFC and threatened due to similarity of appearance USFWS] was seen near the northwest corner of Lake Munson. On July 8, 1997, one white ibis (*Eudocimus albus*) [species of special concern FGFWFC] was observed landing in the Lake Munson area to forage. On the same day one wood stork (*Mycteria americana*) [endangered species FGFWFC and USFWS] was observed flying over Munson Slough. On September 17, 1997, one adult female gopher tortoise (*Polyphemus gopherus*) was observed at the proposed material handling area located north of Capitol Circle and west of Munson Slough. No Florida Mouse (*Podomys floridanus*) or listed herpetofaunal listed species were seen during the study period.

The gopher tortoise burrow survey was performed on August 14 and 15, 1997. The results are presented in **Table 4-6**. The table indicates the habitat, the number of transects, the number of burrows found and their status (active or inactive), and information used to determine the extrapolated number of tortoises in the project area. Fourteen active and one inactive gopher tortoise burrows (total of 14 burrows) were found within the four sites. The extrapolated number of gopher tortoises for these four sites is 7.

In addition to information on historical sightings and pedestrian survey sightings, several local experts were contacted regarding the presence or absence of threatened and endangered species or species of special concern that may occur within or near the project area. Mr. Rodney Cassidy and Mr. Eric Kitchen, with the City of Tallahassee Environmental Services Division, visited the project area on July 15, 1997 and indicated that they were not aware of any federally listed species within or near the project area.

On August 19, 1997, Mr. Jim Ruhl, (USFS, Apalachicola National Forest) was contacted to determine if there were any known active or inactive red-cockaded woodpecker (RCW) [*Picoides borealis*] colonies near the project area. The closest known cavity tree (cluster) was located approximately 3,000 feet west of Lake Munson in compartment 219, and this cluster was not found in the most recent (1989) survey (Ruhl 1997 pers. Comm.). No active eagle nests are known to occur within 5 miles of the project area. No known RCW or eagle nests were observed during the pedestrian surveys.

Overall, the limited occurrence of threatened and endangered species or species of special concern in the project area indicates that with limited relocation of gopher tortoises the improvements upstream of Lake Munson can be implemented with no impact to threatened and endangered species or species of special concern.